UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/678,170	10/06/2003	David Joseph Kropaczek	24GA6001	2278

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EXAMINER
CRAIG, DWIN M

ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *29 August 2008*.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *35-48* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) *35-48* is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All   b) ☐ Some * c) ☐ None of:
        1. ☐ Certified copies of the priority documents have been received.
        2. ☐ Certified copies of the priority documents have been received in Application No. _____.
        3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1.   A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection. Since this application is

eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)

has been timely paid, the finality of the previous Office action has been withdrawn pursuant to

37 CFR 1.114. Applicant's submission filed on 8/29/2008 has been entered.

2.   Claims 35-48 have been presented for reconsideration based on Applicants' request for

continued examination under 37 CFR 1.114, amended claim language and arguments.

Response to Arguments

3.   Applicants' arguments presented in the 8/29/2008 responses have been fully considered;

the Examiner's response is as follows:

3.1   As regards Applicants' arguments presented in on page(s) 7 & 8 Applicants' argued;

         "Applicants respectfully submit that claim 35 has been amended to clarify that "at least

one fuel attribute" is input "into the graphical user interface" and "the graphical user interface

populat[es] the graphical loading map according to the input at least one fuel attribute."

O'Sullivan teaches user populating by indiscriminate dragging and dropping of fuel bundles

between locations - the graphical user interface does not itself populate or otherwise move fuel

bundles, let alone based on fuel attributes. See O'Sullivan p. 1, ¶ 4- p.2, ¶ 5. Without the

graphical user interface actually populating a graphical loading map based on input fuel

attributes, O'Sullivan does not teach or suggest all of the claimed subject matter recited in claim

35 as amended."

The Examiner has found Applicants' argument persuasive as regards the newly amended subject matter in claim(s) 35 and 42 and hereby withdraws the 35 U.S.C. 103(a) rejections of claims 35-48 as being unpatentable over *O'Sullivan* in view of *Hogan*. It is noted by the Examiner that Applicants' made substantially the same argument regarding independent claim 42 on page(s) 8 & 9 of the 8/29/2008 responses.

3.2   An updated search based on the amended claim language has revealed new art.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c)

and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4.   Claims 35-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over

"MICROBURN–B2 to RETRAN-3D Linking Code" by Donald Hines and "CPW for

SIMULATE-3 by Kevin O'Sullivan contained in the "Update…" newsletter hereafter referred to

as the *O'Sullivan* reference in view of U.S. Patent 5,414,809 to Hogan and in further view of

U.S. Patent 5,923,717 to Fawks, Jr. hereafter referred to as *Fawks.*

4.1   Regarding independent claims 35 and 42 and using independent claim 35 as an example,

O'Sullivan discloses, *a method of moving nuclear fuel from a fuel pool with a graphical user*

interface, the method comprising: inputting at least one fuel attribute into the graphical user

interface, graphically populating, by the graphical user interface, a graphical loading map with

graphical fuel bundles, the graphical bundles representing fuel bundles in at least one fuel pool

(see the Figure on page 2 as well as the text "Clicking on the EXCEL command buttons loads

data and graphs into a new or existing worksheet", a spreadsheet is a *graphical loading map*), *,*

the graphical user interface configured to graphically select, sort, or move graphical fuel

bundles (page 1 discloses, "Using a right click on the mouse, groups of symmetric assemblies

can be rotated 90, 180 or 270 degrees, core locations are darkened where an assembly has been

moved." Being able to select a *symmetric* group of assemblies clearly teaches the limitation of

selecting, sort or move) into the graphical loading map based on the at least one corresponding

attribute of the fuel bundles represented by the graphical fuel bundles (pages 1 & 2 and more

specifically, "In both PWR and BWR versions, the core engineer design engineer can swap

assembly locations in the core or "drag and drop" assemblies and their modeling data from the

Spent Fuel Pool or Fresh Fuel locations to the core."); *and physically placing the fuel bundles into a reactor core according to the populated graphical loading map.*

However, *O'Sullivan* does not expressly disclose, *including one or more loading tools* and further does not disclose *populating the graphical loading map, according to the input at least one fuel attribute and at least one corresponding attribute of the nuclear fuel bundles represented by the graphical fuel bundles.*

Hogan teaches, *a graphical user interface including one or more loading tools,* specifically Figure 9 shows a Graphical User Interface tool identical to the GUI tool disclosed in Applicants' Figure 3 item # 160.

Fawks teaches, *populating a loading map, according to the input at least one fuel attribute and at least one corresponding attribute of the nuclear fuel bundles represented by the fuel bundles* (Figure(s) 1 & 2 and Col. 3 lines 43-67 and Col. 4 lines 1-54 specifically the portion of the descriptive text that discloses the use of *rules* to determine the core locations).

O'Sullivan, Hogan and *Fawks* are from the same problem solving area of providing intelligent user interfaces for performing data manipulation.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to have used the GUI tool teachings of *Hogan* in the GUI environment teachings of *O'Sullivan* to transfer items from the Spent Fuel Pool locations as detailed by the figure on page 2 of *O'Sullivan* into a reactor core during fuel recovery and further to have used the nuclear fuel loading arrangement teachings of *Fawks.*

The suggestion for doing so would have been to provide an easy to use interface for moving data from one table, *spent fuel pool* to another table *a fresh fuel table* without any special knowledge of a computer interface. The efficiency and ease of use would motivate an

artisan of ordinary skill to provide the GUI tool as disclosed in *Hogan* in the Graphical User

Interface environment as disclosed by *O'Sullivan*, the Examiner further notes that the type of

tool as disclosed in *Hogan* is well known in the Graphical User Interface art and further that an

artisan of ordinary skill in the GUI programming arts would have been motivated to add this type

of GUI tool in order to make any simulation software easier to use. As regards the use of the

nuclear core loading arrangement teachings of *Fawks* an artisan of ordinary skill would have

been motivated to use this methodology to avoid the *hit and* miss methodologies of the past in

order to arrive at a better arrangement in a faster and more efficient manner, see *Fawks* Col. 1

lines 35-45 and Col. 2 lines 55-63. Further and in regards to the requirement for a teaching,

suggestion and/or motivation please see *Dann v. Johnson,* 425 U.S. 219, 189 USPQ 257 (1976)

and *Leapfrog Enterprises, Inc. v. Fisher-Price, Inc.,* --F.3d--, 82 USPQ2d 1687 (Fed. Cir. 2007)

as well as *KSR International Co. v. Teleflex Inc.,* 550 U.S. --, 82 USPQ2d 1385 (2007). The cited

cases recently decided by the Federal Circuit Court as well as the U.S. Supreme Court clearly set

forth that the references themselves do not have to expressly disclose a teaching, suggestion or

motivation to combine references in an obviousness type of art rejection.

Therefore it would have been obvious to combine the teachings of *Fawks and Hogan*

with *O'Sullivan* in order to obtain the invention as specified in claims 35-48.

4.2 Regarding claims 37 and 43 and using claim 37 as an example, *O'Sullivan* combined

with *Hogan* teaches, *wherein the graphical user interface further includes at least one fuel pool*

table and a reload table, wherein the graphically populating includes, graphically selecting,

sorting, filtering, or moving the graphical fuel bundles within or among the graphical loading

map, the at least one fuel pool table, and the reload table via the one or more loading tools, the

selecting, sorting, filtering, and moving being based in the one or more fuel attributes of the fuel

bundles represented by the graphical fuel bundles (see pages 1 & 2 of *O'Sullivan* and Figure 9 of *Hogan*).

4.3   Regarding claims 37, 39, 44 and 46 and using claim 37 as an example, *O'Sullivan* teaches, *storing at least one fuel pool database, the fuel database including a fuel pool list of at least one of the fuel bundles residing in the fuel pool; and graphically populating the at least one fuel pool table with a graphical representation of at least one of the fuel bundles on the fuel pool list* (*O'Sullivan* pages 1 & 2 "Access, SQL, Oracle or Sybase as well as Microsoft Excel and Word").

4.4   Regarding claims 38 and 45 and using claim 38 as an example, *O'Sullivan* in combination with *Hogan* teaches, *wherein the graphical user interface includes a fresh fuel table, and wherein the graphically populating includes graphically selecting, sorting, filtering, or moving the graphical fuel bundles within or among the loading map, the at least one fuel pool table, the reload table, and the fresh fuel table via the one or more loading tools, the selecting, sorting, filtering, and moving being based on the one or more fuel attributes of the fuel bundles represented by the graphical fuel bundles* (see page 2 of *O'Sullivan* "Fresh Fuel Listing" as well as page 1 discloses, "Using a right click on the mouse, groups of symmetric assemblies can be rotated 90, 180 or 270 degrees, core locations are darkened where an assembly has been moved." Regarding the loading tool see *Hogan* figure 9).

4.5   Regarding claims 40 and 47 using claim 40 as an example, *O'Sullivan* teaches, *analyzing the populated graphical loading map by simulating reactor performance with the populated graphical loading map, the analyzing performed before the physically placing the fuel bundles into the reactor core according to the populated loading map* (see the description of "CPW for SIMULATE-3" on page 1 of *O'Sullivan*).

4.6   Regarding claims 41 and 48 and using claim 41 as an example, *O'Sullivan* teaches,

wherein the one or more fuel attributes include at least one of exposure, a previous cycle in

which the fuel bundle was used, k infinity... O'Sullivan teaches, (page 2 "Spent Fuel Pool" K-

Infinity is the 7th column from the left).

Conclusion

5.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to DWIN M. CRAIG whose telephone number is (571)272-3710.

The examiner can normally be reached on 10:00 - 6:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Paul L. Rodriguez can be reached on (571) 272-3753. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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